

five kingdoms, and the things that fit in none of them



How the system got to five kingdoms *

- Aristotle gave the first scientific attempt, splitting plants by habit and animals by whether they had red blood
- Linnaeus gave the two kingdom system, Plantae and Animalia, which stood for two centuries and hid every important distinction
- its failures: it put together prokaryotes and eukaryotes, unicellular and multicellular, and organisms that photosynthesise with those that absorb
- R H Whittaker, 1969, proposed the five kingdoms on cell structure, body organisation, mode of nutrition, reproduction and phylogenetic relationships
- Monera, Protista, Fungi, Plantae, Animalia, and the fault line running through all of them is prokaryote against eukaryote

The five, on the criteria Whittaker used

Kingdom	Cell type	Body	Nutrition
Monera	prokaryotic	unicellular	autotrophic or heterotrophic
Protista	eukaryotic	unicellular	photosynthetic or ingestive
Fungi	eukaryotic	multicellular and mycelial, except the yeasts	absorptive, saprophytic or parasitic
Plantae	eukaryotic	multicellular	photosynthetic autotrophs
Animalia	eukaryotic	multicellular	ingestive heterotrophs

cell wall present in Monera, Fungi and Plantae and absent in Animalia; the Protista are mixed, which is what makes that kingdom the untidy one

